

The Blippoo sensor.

The sensor measures the distance of your hand straight above the top hole of the sensor. From the top hole a narrow beam of infrared light emanates straight up. Under the second hole is a special CCD infrared detector that measures the angle of the infrared spot on your hand and a spot straight above the second hole. This means that when your hand is closer to the sensor the angle becomes slightly greater, and this information is converted into a control voltage that sweeps the twinpeak resonator upwards. The active range is between 6cm and 40cm above the sensor. At 6cm the control voltage will have its peak, at 40cm there is only little effect. When moving your hand closer to the sensor than 6cm the effect will decrease again. The sensor is quite insensitive to ambient light and the beam is narrow enough not to interfere while tweaking the knobs and playing the sensor at the same time.

The sensor output signal is connected to the ResCV input connector in a way that when this input connector is not used the sensor is automatically connected to the ResCV and will sweep the resonator peaks up and down. When a jack is inserted into the ResCV input connector the signal on the jack will take over. There is a switch inside the connector that will detect if a jack is inserted and switch between the sensor and an external signal on the jack.

(Note that on the banana version the sensor is always connected in parallel to the ResCV connector and thus is always active when you wave your hand over the sensor).

The good thing about the sensor is that it senses only in a narrow beam straight above the sensor. But there are also some downsides to the sensor and it is good to be aware of its behaviour to be able to learn how to anticipate on this behaviour while playing. Although the sensor produces an analog control voltage output its inner workings are digital. That means that when moving your hand up and down you will notice a steppery behaviour. This behaviour is more noticeable when moving your hand down than when moving your hand up.

The sensor is also a bit sluggish, as it does about 25 measurements a second. This means that when you move only a finger fast from left to right through the beam there will be little effect, or it might miss the movement entirely. So, if you want sort of a pluck effect you have to learn at what speed you have to move your finger through the beam, or use two or three fingers held close to each other.

When there is no object above the sensor the output will not be a stable 'no signal' voltage, but there will be a slight wobbly effect. To completely shut the sensor off you can plug a jack into the ResCV input connector. This can be just a jack with no cable attached to it, or a cable where the other end is not connected to anything. You can resort to this simple trick when for some reason you do not want to use the sensor at all. Or else, just place a coin or something similar over the lowest hole of the sensor.

These are the things you need to know about the sensor. Now start playing the Blippoo and sensor, and try if you can grasp the behaviour.